SITE ASSESSMENT REPORT
FOR
CYB TOOL SITE
CANTON, WAYNE COUNTY, MICHIGAN
TDD # TO5-9302-012
PAN # EMI1332SAA
DOCUMENT CONTROL NUMBER TAT-05-25-03030

OCTOBER 4, 1993

Prepared For:
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Contract No.: 68-WO-0037

Project Manager: Herb B. Langer Date: 10-5-93
Prepared By: Herb B. Langer Date: 10-5-93
Reviewed By: Sandra L. Bashar Date: 5 November 1993
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1.0 INTRODUCTION

On March 8, 1993, the United States Environmental Protection Agency (U.S. EPA), under Technical Directive Document (TDD) number TO5-9302-012, tasked the Ecology & Environment, Inc. (E & E), Technical Assistance Team (TAT) to perform an assessment of the Cyb Tool site in Canton, Michigan. Activities outlined in the TDD included preparation of a health and safety plan, investigation of the site background and locations of historical contamination, procurement of a subcontractor to perform investigative excavations, and performance of sampling and analyses of waste and potentially contaminated soil found on site. The results of the assessment were to be used for evaluation of the site's threat to human health and the environment based on Title 40 Code of Federal Regulations (CFR) 300.415, National Contingency Plan (NCP). The TAT members performing the site assessment were Dave Anderson, Ed Lancaster, Mike Dieckhaus, Mark Durno, and Herb Langer.

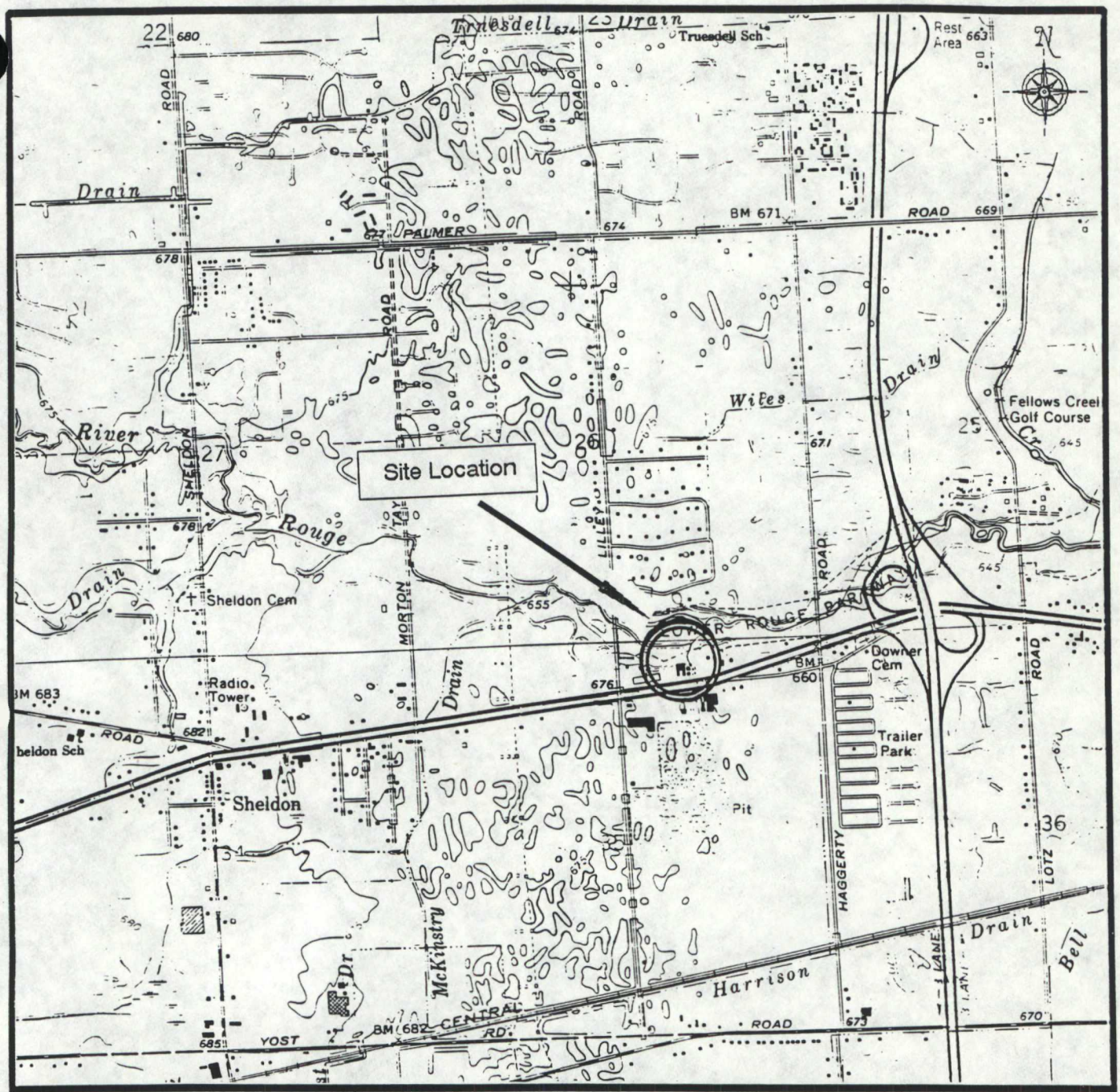
2.0 BACKGROUND

2.1 Site Description and History

The Cyb Tool site is located at 42056 Michigan Avenue, Canton, Wayne County, Michigan (Figure 1). The site is a former manufacturing facility located on approximately two acres. It is bordered to the north by wooded land and the Rouge River, to the south by Michigan Avenue, light industry, commercial business, and the Sauk Trail Hills Landfill, to the east by commercial businesses, and to the west by a commercial greenhouse and a U.S. EPA monitored, privately funded hazardous waste remediation site. The building and the site were in good condition and surrounded by an intact, five foot chain link fence. Gates leading into the site were secured with padlocks (Figure 2).

The United States Department of Agriculture (USDA), Wayne County area soil survey refers to the site soil as "made land". The survey describes soils with this designation as consisting of buried trash, garbage, and rubble. It states that these areas were excavated to or below the permanent water table and refilled with alternate layers of refuse and soil materials ranging from sand to clay.

The site is for sale and is privately owned. Historical records show that the site was once an electroplating facility. Historical aerial photographs of the site show a 120 by 50 foot area, north of the original building, that appeared to be a waste treatment lagoon . Older photographs show that the Rouge River once flowed within twenty feet of the building and was rerouted to its present path. Since these photographs were taken, the land has been filled to its present elevation. The land west of the site was filled with soil and industrial waste and is



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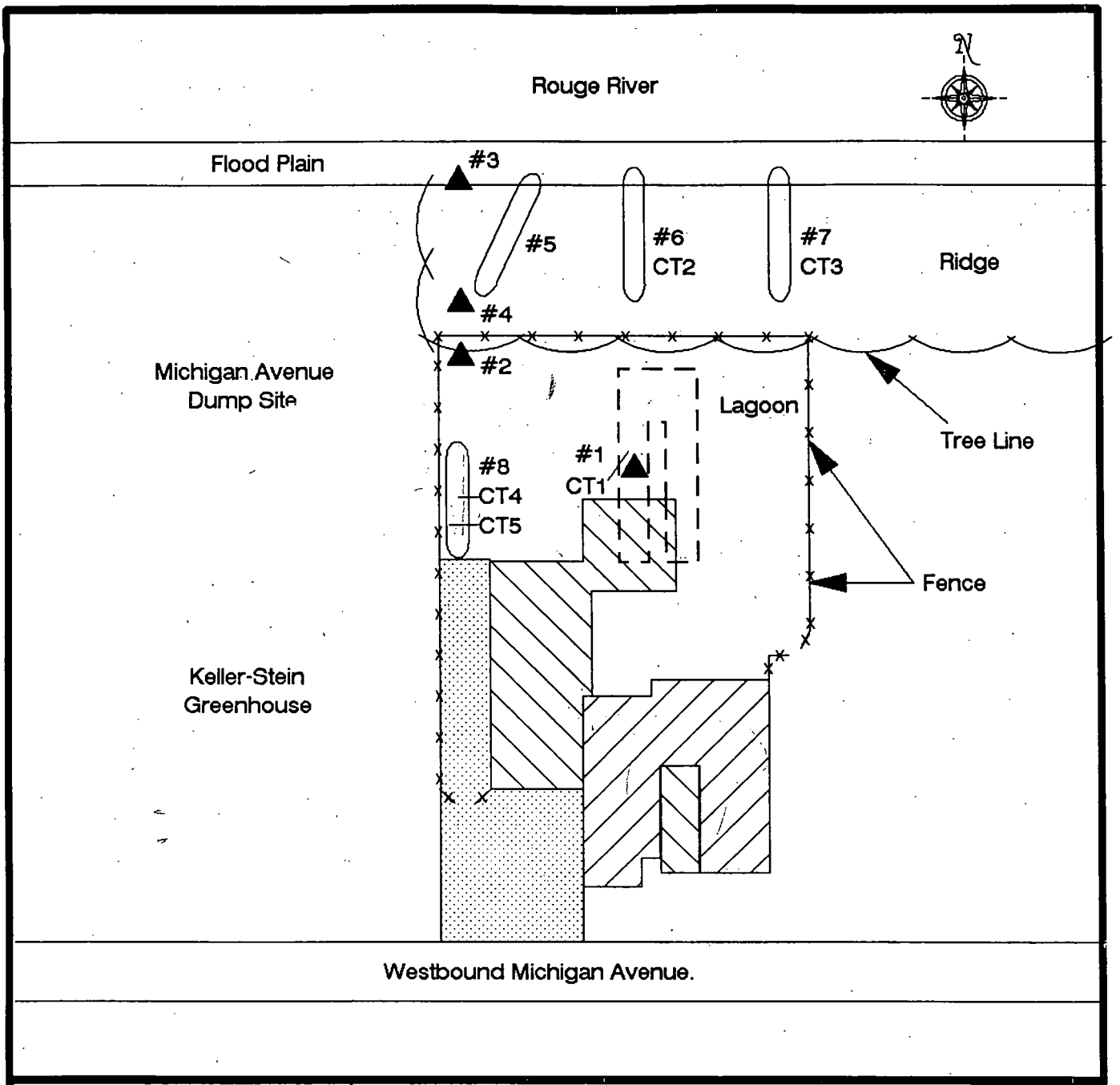
Region V

TITLE: Site Location Map		FIGURE #: 1
SITE: Cybtool		SCALE: 1:24,000
SOURCE/DATE: USGS 7.5 Minute Series Wayne Quadrangle 1980	CITY: Canton STATE: Michigan	TDD #: T05-9302-012



LEGEND

CT#	Sample Location
▲	Excavation
⬭	Trench
▨	Asphalt
▨	Original Building
▨	Building Additions
— —	Lagoon Boundry

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Region V

TITLE: Site Activity Map		FIGURE #: 2
SITE: Cyb Tool Site		SCALE: 1 inch = 100 feet
SOURCE/DATE: E & E, Inc./August 18, 1993	CITY: Canton STATE: Michigan	TDD #: T05-9302-012

presently undergoing a clean-up funded by the responsible parties. The purpose of this investigation was to determine if the same type of fill was used at the Cyb Tool site and if any residual electroplating waste from the lagoon exists and poses a health hazard.

3.0 SITE ACTIVITIES

In April 1993, the TAT requested information from Wayne County and the State of Michigan regarding reported businesses that had operated at the site. A company called Baux Corporation operated the facility from at least 1955 to 1958 as a supplier of electroplated and finish coated metal parts. No information was found regarding the other reported companies.

On June 22, 1993, TAT members (TATMs) Mark Durno and Herb Langer arrived on site to determine the location of the lagoon. The TAT measured the original building and additions that have been added. The building dimensions were used to produce a scale for the aerial photographs showing the lagoon. The lagoon dimensions were then calculated and the location of the historic lagoon was determined.

On June 24, 1993, the TAT arrived back on site and marked the lagoon boundaries. Additions to the original building were found to cover approximately one third of the lagoon. The TAT then used a bucket auger to bore six feet into the marked area. A total of three borings were completed and no indications of waste were detected. The composition of the soil was a clay/sand mix that was consistent with the fill cap at the waste site west of the Cyb Tool site.

When it was determined that manual boring could not effectively penetrate the fill cap and reach the waste, the OSC requested the TAT to procure a sub-contractor to perform investigative excavations at the site. On July 12, 1993, the TAT held a bid meeting for prospective sub-contractors, and on July 30, 1993, awarded the contract to Youngs Environmental Cleanup, Inc.

On August 3, 1993, the sub-contractor arrived on site with a decontamination trailer, backhoe, excavator, personnel, and other materials to perform the excavations. The TAT provided three personnel; two to perform tasks in the excavation area and one to monitor and record the activities. All activity performed within the excavation areas was performed in level B personal protective equipment, and included air monitoring consistent with the site safety plan. Excavation locations are shown in Figure 2.

The first test excavation was into the west leg of the historic lagoon. The soil encountered during the dig was primarily clay with some sand. Concrete was interspersed throughout the fill material. These observations were consistent with the USDA soil

survey information.

At a depth of seventeen feet, green material was encountered. The color and texture of the material was consistent with residual plating sludge. Electroplated metal automotive parts were mixed in with the sludge. After collecting a sample of the sludge (sample number CT1), the excavation was backfilled.

Since the first excavation allowed the historic lagoon to be located, identified, and sampled, the investigation then focused on areas where drum burials were suspected. These areas were selected by the OSC and TAT based on historical photos and experiences at the adjacent site. Excavations were continued to a depth where evidence of fill material no longer existed or until groundwater was encountered. The second excavation was performed at the west end of the site just inside the fence line. Concrete and fill soil were the only materials encountered during this excavation. At seventeen feet no groundwater had been encountered and fill materials were no longer apparent. The excavation was then backfilled and excavation three was begun.

The fence north of the second excavation was removed, and the third excavation was initiated. The excavation was near the river and was continued to the water table. No waste was encountered. Excavation four was near the top of the hillside between excavations two and three. The excavation was continued until virgin soil was encountered. Fill soil and concrete were the only materials found in both excavations. The fifth excavation was directed in a northeast angle from excavation four. The trench was dug from the elevation of excavation three to the elevation of excavation four. The excavation was continued until groundwater was encountered. Excavated fill materials were consistent with excavations two, three, and four. All excavations were backfilled, and the sub-contractor and the TAT departed the site.

On August 4, 1993, the subcontractor and the TAT returned to the site to complete the test excavations. A portion of the fence at the center of the site, directly north of the lagoon, was removed. A trench was again dug from the river elevation to the top of the fill. The material uncovered was mainly fill soil and concrete but some automotive parts were also found. The excavation was continued until virgin soil was encountered. Sample CT2 was collected from the fill soil, six feet below the cap elevation and three feet north of the plateau.

Excavation seven was performed at the eastern edge of the site. The entire site slopes slightly in this direction. Again the fence had to be removed and the excavation trench extended from the river elevation to the top of the fill. Concrete debris and fill soil were the only materials found in the trench down to virgin soil. Sample CT3 was collected from this fill soil.

The OSC then directed that a trench be dug that traversed the remaining length of the fill area, along the west fence line. The trench was dug approximately seventy feet long, fifteen feet deep, and five feet wide. Two unlabeled containers were found with the fill soil and concrete. The first container yielded photoionization detector (PID) readings twelve units above background. The second yielded PID readings of 400 units. Samples were collected from both containers and were numbered CT5 and CT4 respectively.

The sub-contractor then backfilled all excavations and returned the site to the original grade. Remaining soils were placed in piles above the excavation areas to allow for settling. All fencing was replaced and secured. The sub-contractor and the TAT then departed the site. The TAT returned to the site August 5, 1993, to add additional securing to the fence. The TAT then delivered the investigation samples to the laboratory.

4.0 ANALYTICAL RESULTS

A total of five samples were collected from the Cyb Tool site, according to directions from the OSC. Sample locations are shown in Figure 2 and documented in Section 3. All samples were analyzed for polychlorinated biphenyl compounds and total metals. Samples collected from excavations in suspected drum burial locations and from the two excavated containers (CT2, 3, 4, and 5) were analyzed for volatile compounds and the container samples (CT4 and 5) were also analyzed for semi-volatile compounds. The sample collected from the lagoon (CT1) was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals, and total and reactive cyanide.

The analyses were performed by Clayton Environmental Laboratories, Inc., of Novi, Michigan, under TDD number T05-9308-802. The results of the analyses are shown in Table 1. The analytical package and quality assurance review are shown in Appendix B.

5.0 DISCUSSION OF POTENTIAL THREATS

The site assessment at the Cyb Tool site was conducted to evaluate the threat to public health and the environment posed by the potential for imminent release of hazardous substances from the site.

The NCP provides specific criteria for evaluation of a threat and the appropriateness of a removal action in Section 300.415, Paragraph (b) (2), Subsections (i) through (viii). Observations documented during this site assessment apply to subsections:

Table 1
Analytical Results
Cyb Tool Site
Canton, Wayne County, Michigan

	Sample Number				
Parameter	CT1	CT2	CT3	CT4	CT5
Aroclor 1248	1.5	ND	ND	0.5	0.2
Aroclor 1254	0.2	0.6	0.3	0.8	0.2
Aroclor 1260	ND	0.07	0.07	0.20	0.10
Chromium Total/TCLP	210,000 / 0.4	52 / NA	470 / NA	12,000 / NA	41,000 / NA
Zinc Total/TCLP	1,500 / 30	120 / NA	92 / NA	33,000 / NA	55,000 / NA
Copper Total/TCLP	4,300 / 1.2	25 / NA	25 / NA	9,400 / NA	41 / NA
Lead Total/TCLP	2,800 / ND	75 / NA	17 / NA	320 / NA	140 / NA
Total Cyanide	2,800	NA	NA	NA	NA
Total Xylenes	NA	ND	ND	19,000	6,400
Ethyl Benzene	NA	ND	ND	3,300	800
Butylbenzyl phthalate	NA	NA	NA	5,800	1,300
Di-n-butyl phthalate	NA	NA	NA	ND	70
Dimethyl phthalate	NA	NA	NA	600	ND
Naphthalene	NA	NA	NA	ND	270

Sample results are reported in parts per million.
NA - Not Analyzed
ND - Not Detected

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

All compounds found on site and listed in Table 1, are designated as hazardous substances pursuant to 40 CFR part 302. If these hazardous substances migrate through the porous site soils and into the water table and the Rouge River, humans, animals, and food chains, that use these water supplies would be exposed to them.

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

Hazardous substances were identified in soils and containers buried in the fill above the site water table at depths from near the fill surface to seventeen feet below the surface. If they are transported through the porous site soil and fill material, they will contaminate the water table and Rouge River and the ecosystems they support. Drinking water in the area is supplied by a public system that does not use the local groundwater supply.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Hazardous substances have been identified in soils and buried containers on site. Precipitation percolating through the site soils or seasonal, weather related, increases in the water table and Rouge River may surround, dissolve, suspend, and eventually cause these hazardous substances to migrate.

6.0 SUMMARY

Hazardous substances have been identified in soils and containers located on site. Containment of these substances is not provided by the porous fill materials and soils at the site. Metals and cyanides located in the identified buried lagoon are soluble; this increases the potential for migration through the fill to the water table and the nearby Rouge River. Elevated concentrations of some soluble metals were found away from the actual deposits and in the soils between the lagoon and the river, within the suspected ground water flow path. This suggests that the described scenario may already be occurring.

Observations documented during the site assessment show that the conditions at the Cyb Tool site constitute an imminent and substantial threat to public health and welfare. This conclusion is based upon observations by the OSC and the TAT, as evaluated against the criteria set forth in the NCP.

A

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MEMORANDUM

DATE: September 1, 1993

TO: File, E & E, Detroit, MI

FROM: Herbert B. Langer, TAT-Chemist, E & E, Detroit, MI

THRU: Sandra L. Basham, ATATL, E & E, Detroit, MI

SUBJ: **PCB Data Quality Assurance Review, Cyb Tool Site, Canton, Wayne County, Michigan**

REF: Analytical TDD: T05-9308-802 Project TDD: T05-9302-012
Analytical PAN: EMI1332AAA Project PAN: EMI1332SAA

The data quality assurance review for the five soil samples collected from the Cyb Tool site in Canton, Michigan, has been completed. Analyses for polychlorinated biphenyl compounds (SW846, method 8080) were performed by Clayton Environmental Laboratories, Novi, Michigan.

The samples were numbered: CT1, CT2, CT3, CT4, and CT5

Data Qualifications

I Sample Holding Time: Acceptable

The samples were collected August 3 and 4, 1993, extracted August 10, 1993, and analyzed August 19 and 20, 1993, within the recommended holding times.

II Instrument Performance: Acceptable

Peak resolution on standard chromatograms was adequate. Spot checks of surrogate compound retention times in the raw data do not vary more than 1.5 percent as required for wide bore capillary columns.

III Initial and Continuing Calibration: Acceptable

A four point initial calibration was performed July 1, 1993. Percent relative standard deviations of response factors, for the Aroclors of interest, were less than ten. Continuing calibration was performed each day of analyses. Percent deviations of response factors between initial and continuing calibrations were less than 15 for quantitation

and less than 20 for confirmation analyses, as required.

IV Method Blank: Acceptable

A blank was analyzed the day of quantitation analysis, None of the target compounds were detected in the blank above the instrument detection limits.

VI Compound Identification: Acceptable

Positive results were identified using correct fingerprint patterns and retention time windows.

VII Compound Quantitation and Reported Detection Limits: Acceptable

Detection limits were correctly adjusted to account for dilutions required and sample moisture content.

VIII Overall Assessment of Data for Use:

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 7.0, PCBs.

Based upon the information provided, the data are acceptable for use.

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Water
Lab Number: 161077
Sample Identification: CT-1, West Lagoon
Analytical Method: (EPA) 8080 (modified)
Moisture (%): 70

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
PCB Aroclor-1016	<200	200
PCB Aroclor-1221	<400	400
PCB Aroclor-1232	<200	200
PCB Aroclor-1242	<200	200
PCB Aroclor-1248	1,500	200
PCB Aroclor-1254	200	200
PCB Aroclor-1260	<200	200

Results are reported on a dry weight basis, corrected for percent moisture.

Date extracted: 08-10-93
Date analyzed: 08-20-93

Limit of detection may vary due to matrix effects and presence of Aroclor-1248 and Aroclor-1254.

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Water
Lab Number: 161078
Sample Identification: CT-2, Center Hillside
Analytical Method: (EPA) 8080 (modified)
Moisture (%): 9

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
PCB Aroclor-1016	<40	40
PCB Aroclor-1221	<70	70
PCB Aroclor-1232	<40	40
PCB Aroclor-1242	<40	40
PCB Aroclor-1248	<40	40
PCB Aroclor-1254	60	40
PCB Aroclor-1260	70	40

Results are reported on a dry weight basis, corrected for percent moisture.

Date extracted: 08-10-93
Date analyzed: 08-18-93

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Water
Lab Number: 161079
Sample Identification: CT-3, East Hillside
Analytical Method: (EPA) 8080 (modified)
Moisture (%): 8

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
PCB Aroclor-1016	<70	70
PCB Aroclor-1221	<100	100
PCB Aroclor-1232	<70	70
PCB Aroclor-1242	<70	70
PCB Aroclor-1248	<70	70
PCB Aroclor-1254	300	70
PCB Aroclor-1260	70	70

Results are reported on a dry weight basis, corrected for percent moisture.

Date extracted: 08-10-93
Date analyzed: 08-20-93

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Water
Lab Number: 161080
Sample Identification: CT-4, Second Container
Analytical Method: (EPA) 8080 (modified)
Moisture (%): 27

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
PCB Aroclor-1016	<200	200
PCB Aroclor-1221	<400	400
PCB Aroclor-1232	<200	200
PCB Aroclor-1242	<200	200
PCB Aroclor-1248	500	200
PCB Aroclor-1254	800	200
PCB Aroclor-1260	200	200

Results are reported on a dry weight basis, corrected for percent moisture.

Date extracted: 08-10-93
Date analyzed: 08-19-93

Limit of detection varies due to presence of Aroclor-1248 and Aroclor-1254.

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Water
Lab Number: 161081
Sample Identification: CT-5, First Container
Analytical Method: (EPA) 8080 (modified)
Moisture (%): 13

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
PCB Aroclor-1016	<80	80
PCB Aroclor-1221	<200	200
PCB Aroclor-1232	<80	80
PCB Aroclor-1242	<80	80
PCB Aroclor-1248	200	80
PCB Aroclor-1254	200	80
PCB Aroclor-1260	100	80

Results are reported on a dry weight basis, corrected for percent moisture.

Date extracted: 08-10-93
Date analyzed: 08-20-93

Limit of detection varies due to matrix effects.

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M E M O R A N D U M

DATE: September 1, 1993

TO: File, E & E, Detroit, MI

FROM: Herbert B. Langer, TAT-Chemist, E & E, Detroit, MI

THRU: Sandra L. Basham, ATATL, E & E, Detroit, MI

SUBJ: **Organic Data Quality Assurance Review, Cyb Tool Site, Canton, Wayne County, Michigan**

REF: Analytical TDD: T05-9308-802 Project TDD: T05-9302-012
Analytical PAN: EMI1332AAA Project PAN: EMI1332SAA

The data quality assurance review for the two soil samples collected from the Cyb Tool site in Canton, Michigan, has been completed. Analyses for semi-volatile organic compounds (SW846, method 8270) were performed by Clayton Environmental Laboratories, Novi, Michigan.

The samples were numbered: CT4 and CT5

Data Qualifications

I Holding Time: Acceptable

The samples were collected August 4, 1993, extracted August 9, 1993, and analyzed August 19, 1993, within the recommended holding times.

II GC/MS Tuning: Acceptable

Decafluorotriphenylphosphine was run the day of analysis. Ion abundance criteria were met for the instrument used.

III Initial and Continuing Calibration: Acceptable

A five point calibration was performed July 29, 1993. All average response factors were greater than zero and percent relative standard deviations were less than 30 for the detected compounds as required. Continuing calibration was performed the day of analysis. All relative response factors were greater than 0.05. Percent differences between

initial and continuing calibration response factors were less than twenty-five for detected compounds.

IV Method Blank: Acceptable

A blank was analyzed with the sample run prior to dilution. None of the target analytes were detected in the blank above the instrument detection limits.

V Optional Quality Control Analyses: Surrogate Recovery

Surrogate compounds were added to the samples, but were masked due to sample dilutions.

VI Compound Identification: Acceptable

Relative retention times of identified compounds were within 0.06 units of the daily standards.

VII Compound Quantitation and Reported Detection Limits: Acceptable

Dilutions were required to bring analyte concentrations to quantifiable levels. These dilutions may have masked other analytes in the sample at lower concentrations. Detection limits have been properly adjusted.

VIII Overall Assessment of Data for Use:

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 4.0, BNAs by GC/MS Analysis.

Based upon the information provided, the data are acceptable for use.

Analytical Results
for
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Prepared :	08/09/93
Lab Number:	------ >A8431	Date Extracted:	08/09/93
Sample Identification:	EXTRACTION BLANK	Date Analyzed :	08/13/93
Analytical Method:	EPA 8270	Moisture :	0%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acenaphthene	<3000	3000
Acenaphthylene	<3000	3000
Anthracene	<3000	3000
Benzo(a)anthracene	<3000	3000
Benzo(b)fluoranthene	<3000	3000
Benzo(k)fluoranthene	<3000	3000
Benzo(a)pyrene	<3000	3000
Benzo(g,h,i)perylene	<3000	3000
Bis(2-chloroethyl)ether	<3000	3000
Bis(2-chloroethoxy)methane	<3000	3000
Bis(2-chloroisopropyl)ether	<3000	3000
Bis(2-ethylhexyl)phthalate	<3000	3000
4-Bromophenyl-phenylether	<3000	3000
Butylbenzylphthalate	<3000	3000
4-Chloroaniline	<10000	10000
2-Chloronaphthalene	<3000	3000
4-Chlorophenyl-phenylether	<3000	3000
Chrysene	<3000	3000
Dibenzo(a,h)anthracene	<3000	3000
Di-n-butylphthalate	<3000	3000
1,2-Dichlorobenzene	<3000	3000
1,3-Dichlorobenzene	<3000	3000
1,4-Dichlorobenzene	<3000	3000
Diethylphthalate	<3000	3000
Dimethyl phthalate	<3000	3000
2,4-Dinitrotoluene	<3000	3000
2,6-Dinitrotoluene	<3000	3000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Prepared :	08/09/93
Lab Number:	------ >A8431	Date Extracted:	08/09/93
Sample Identification:	EXTRACTION BLANK	Date Analyzed :	08/13/93
Analytical Method:	EPA 8270	Moisture :	0%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Di-n-octylphthalate	<3000	3000
Fluoranthene	<3000	3000
Fluorene	<3000	3000
Hexachlorobenzene	<3000	3000
Hexachlorobutadiene	<3000	3000
Hexachlorocyclopentadiene	<3000	3000
Hexachloroethane	<3000	3000
Indeno(1,2,3-cd)pyrene	<3000	3000
Isophorone	<3000	3000
Naphthalene	<3000	3000
2-Nitroaniline	<10000	10000
3-Nitroaniline	<10000	10000
4-Nitroaniline	<10000	10000
Nitrobenzene	<3000	3000
N-Nitroso-di-n-propylamine	<3000	3000
N-Nitrosodiphenylamine	<3000	3000
Phenanthrene	<3000	3000
Pyrene	<3000	3000
1,2,4-Trichlorobenzene	<3000	3000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Prepared :	08/09/93
Lab Number:	------ >A8431	Date Extracted:	08/09/93
Sample Identification:	EXTRACTION BLANK	Date Analyzed :	08/13/93
Analytical Method:	EPA 8270	Moisture :	0%

Acid Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
4-Chloro-3-methylphenol	<3000	3000
2-Chlorophenol	<3000	3000
2,4-Dichlorophenol	<3000	3000
2,4-Dimethylphenol	<3000	3000
2,4-Dinitrophenol	<10000	10000
4,6-Dinitro-2-methylphenol	<10000	10000
2-Nitrophenol	<3000	3000
4-Nitrophenol	<10000	10000
Pentachlorophenol	<10000	10000
Phenol	<3000	3000
2,4,6-Trichlorophenol	<3000	3000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161080 >A8445	Date Extracted:	08/09/93
Sample Identification:	CT-4	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	27%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acenaphthene	<500000	500000
Acenaphthylene	<500000	500000
Anthracene	<500000	500000
Benzo(a)anthracene	<500000	500000
Benzo(b)fluoranthene	<500000	500000
Benzo(k)fluoranthene	<500000	500000
Benzo(a)pyrene	<500000	500000
Benzo(g,h,i)perylene	<500000	500000
Bis(2-chloroethyl)ether	<500000	500000
Bis(2-chloroethoxy)methane	<500000	500000
Bis(2-chloroisopropyl)ether	<500000	500000
Bis(2-ethylhexyl)phthalate	<500000	500000
4-Bromophenyl-phenylether	<500000	500000
Butylbenzylphthalate	5800000	500000
4-Chloroaniline	<2000000	2000000
2-Chloronaphthalene	<500000	500000
4-Chlorophenyl-phenylether	<500000	500000
Chrysene	<500000	500000
Dibenzo(a,h)anthracene	<500000	500000
Di-n-butylphthalate	<500000	500000
1,2-Dichlorobenzene	<500000	500000
1,3-Dichlorobenzene	<500000	500000
1,4-Dichlorobenzene	<500000	500000
Diethylphthalate	<500000	500000
Dimethyl phthalate	600000	500000
2,4-Dinitrotoluene	<500000	500000
2,6-Dinitrotoluene	<500000	500000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161080 >A8445	Date Extracted:	08/09/93
Sample Identification:	CT-4	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	27%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Di-n-octylphthalate	<500000	500000
Fluoranthene	<500000	500000
Fluorene	<500000	500000
Hexachlorobenzene	<500000	500000
Hexachlorobutadiene	<500000	500000
Hexachlorocyclopentadiene	<500000	500000
Hexachloroethane	<500000	500000
Indeno(1,2,3-cd)pyrene	<500000	500000
Isophorone	<500000	500000
Naphthalene	<500000	500000
2-Nitroaniline	<2000000	2000000
3-Nitroaniline	<2000000	2000000
4-Nitroaniline	<2000000	2000000
Nitrobenzene	<500000	500000
N-Nitroso-di-n-propylamine	<500000	500000
N-Nitrosodiphenylamine	<500000	500000
Phenanthrene	<500000	500000
Pyrene	<500000	500000
1,2,4-Trichlorobenzene	<500000	500000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161080 >A8445	Date Extracted:	08/09/93
Sample Identification:	CT-4	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	27%

Acid Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
4-Chloro-3-methylphenol	<500000	500000
2-Chlorophenol	<500000	500000
2,4-Dichlorophenol	<500000	500000
2,4-Dimethylphenol	<500000	500000
2,4-Dinitrophenol	<2000000	2000000
4,6-Dinitro-2-methylphenol	<2000000	2000000
2-Nitrophenol	<500000	500000
4-Nitrophenol	<2000000	2000000
Pentachlorophenol	<2000000	2000000
Phenol	<500000	500000
2,4,6-Trichlorophenol	<500000	500000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161081 >A8446	Date Extracted:	08/09/93
Sample Identification:	CT-5	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	13%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acenaphthene	<60000	60000
Acenaphthylene	<60000	60000
Anthracene	<60000	60000
Benzo(a)anthracene	<60000	60000
Benzo(b)fluoranthene	<60000	60000
Benzo(k)fluoranthene	<60000	60000
Benzo(a)pyrene	<60000	60000
Benzo(g,h,i)perylene	<60000	60000
Bis(2-chloroethyl)ether	<60000	60000
Bis(2-chloroethoxy)methane	<60000	60000
Bis(2-chloroisopropyl)ether	<60000	60000
Bis(2-ethylhexyl)phthalate	<60000	60000
4-Bromophenyl-phenylether	<60000	60000
Butylbenzylphthalate	1300000	60000
4-Chloroaniline	<200000	200000
2-Chloronaphthalene	<60000	60000
4-Chlorophenyl-phenylether	<60000	60000
Chrysene	<60000	60000
Dibenzo(a,h)anthracene	<60000	60000
Di-n-butylphthalate	70000	60000
1,2-Dichlorobenzene	<60000	60000
1,3-Dichlorobenzene	<60000	60000
1,4-Dichlorobenzene	<60000	60000
Diethylphthalate	<60000	60000
Dimethyl phthalate	<60000	60000
2,4-Dinitrotoluene	<60000	60000
2,6-Dinitrotoluene	<60000	60000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161081 >A8446	Date Extracted:	08/09/93
Sample Identification:	CT-5	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	13%

Base Neutral Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Di-n-octylphthalate	<60000	60000
Fluoranthene	<60000	60000
Fluorene	<60000	60000
Hexachlorobenzene	<60000	60000
Hexachlorobutadiene	<60000	60000
Hexachlorocyclopentadiene	<60000	60000
Hexachloroethane	<60000	60000
Indeno(1,2,3-cd)pyrene	<60000	60000
Isophorone	<60000	60000
Naphthalene	270000	60000
2-Nitroaniline	<200000	200000
3-Nitroaniline	<200000	200000
4-Nitroaniline	<200000	200000
Nitrobenzene	<60000	60000
N-Nitroso-di-n-propylamine	<60000	60000
N-Nitrosodiphenylamine	<60000	60000
Phenanthrene	<60000	60000
Pyrene	<60000	60000
1,2,4-Trichlorobenzene	<60000	60000

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received :	08/06/93
Lab Number:	161081 >A8446	Date Extracted:	08/09/93
Sample Identification:	CT-5	Date Analyzed :	08/19/93
Analytical Method:	EPA 8270	Moisture :	13%

Acid Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
4-Chloro-3-methylphenol	<60000	60000
2-Chlorophenol	<60000	60000
2,4-Dichlorophenol	<60000	60000
2,4-Dimethylphenol	<60000	60000
2,4-Dinitrophenol	<200000	200000
4,6-Dinitro-2-methylphenol	<200000	200000
2-Nitrophenol	<60000	60000
4-Nitrophenol	<200000	200000
Pentachlorophenol	<200000	200000
Phenol	<60000	60000
2,4,6-Trichlorophenol	<60000	60000

* Results are reported on a dry-weight basis, corrected for percent moisture.

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M E M O R A N D U M

DATE: August 31, 1993

TO: File, E & E, Detroit, MI

FROM: Herbert B. Langer, TAT-Chemist, E & E, Detroit, MI

THRU: Sandra L. Basham, ATATL, E & E, Detroit, MI

SUBJ: **Inorganic Data Quality Assurance Review, Cyb Tool Site, Canton, Wayne County, Michigan**

REF: Analytical TDD: T05-9308-802 Project TDD: T05-9302-012
Analytical PAN: EMI1332AAA Project PAN: EMI1332SAA

The data quality assurance review for the five soil samples collected from the Cyb Tool site in Canton, Wayne County, Michigan, has been completed. Analyses for Total Resource Conservation and Recovery Act (RCRA) metals including copper and zinc were performed on samples CT1 through CT5. Toxicity Characteristic Leaching Procedure (TCLP) analysis was performed on sample CT1, both analyses utilize SW846, method 6010. Total and reactive cyanide analyses (SW846, Methods 9010 and 7.3.3.2) were performed on sample CT1. Ignitability analyses were performed on samples CT4 and CT5. All analyses were subcontracted to Clayton Environmental Laboratories, Novi, Michigan.

The samples were numbered: CT1, CT2, CT3, CT4, and CT5

Data Qualifications

I Sample Holding Time: Acceptable

The samples were collected August 3 and 4, 1993. Total metal analyses were performed August 20, 1993, selenium analysis was performed August 23, 1993, and mercury analysis was performed August 10, 1993. TCLP analysis was performed August 12, 1993. Ignitability was performed August 11, 1993, total cyanide analysis was performed August 18, 1993, and reactive cyanide analysis was performed August 10, 1993. All analyses were performed within their respective holding time limits.

II Initial and Continuing Calibration: Acceptable

Laboratory standards were used to generate curves utilized during selenium, mercury, and cyanide analyses. Curve linearity and standard recoveries were acceptable. Initial four point calibrations were performed prior to the remaining sample analyses for metals. Correlation coefficients for the calibrations were acceptable. Midpoint standards and blanks were analyzed before and after the sample analyses as required.

III Blanks: Acceptable

A method blank was analyzed at the required frequency. None of the target analytes were found in the blank above the instrument detection limits.

IV Interference Check Sample (ICS) Analysis: Acceptable

An ICS was analyzed prior to the sample run. The ICS recoveries fell within the required recovery limits of ±50%.

V Matrix Spike (MS) Analysis: Acceptable

A MS was analyzed with the sample run. Percent recoveries were within the laboratory's quality control guidelines.

VI Compound Quantitation and Reported Detection Limits: Acceptable

Reported detection limits for total metals in sample CT1 do not account for moisture content. This and dilutions explain discrepancies between reported and instrument detection limits for the sample.

VII Overall Assessment of Date for Use

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 3.0, Metallic

Analytical Results

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Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161077
Sample Identification: CT-1, West Lagoon

Date prepared: 08-11-93
Date analyzed: 08-12-93
Date leached: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/L)	Limit of Detection (mg/L)
Arsenic	6010	<0.1	0.1
Barium	6010	2.9	0.1
Cadmium	6010	<0.05	0.05
Chromium	6010	0.4	0.1
Copper	6010	1.2	0.1
Lead	6010	<0.1	0.1
Mercury	7470	<0.01	0.01
Selenium	6010	<0.1	0.1
Silver	6010	<0.02	0.02
Zinc	6010	30	0.1

Extraction: 40 CFR 261, Appendix II--Toxicity Characteristic Leaching Procedure (TCLP).

Analysis: EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Second and Third Editions.

Analytical Results

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Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161077
Sample Identification: CT-1, West Lagoon
Moisture (%): 70

Date prepared: 08-17-93
Date analyzed: 08-20-93
Date mercury prepared: 08-10-93
Date mercury analyzed: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	<20	5
Barium	6010	430	5
Cadmium	6010	<10	3
Chromium	6010	210,000	5
Copper	6010	4,300	5
Lead	6010	2,800	5
Mercury	7470	<0.2	0.05
Selenium	6010	<20	5
Silver	6010	3	1
Zinc	6010	1,500	5

Results are reported on a dry weight basis, corrected for percent moisture.

Analytical Results

for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161078
Sample Identification: CT-2, Center Hillside
Moisture (%): 9

Date prepared: 08-17-93
Date analyzed: 08-20-93
Date mercury prepared: 08-10-93
Date mercury analyzed: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	7	5
Barium	6010	87	5
Cadmium	6010	<3	3
Chromium	6010	52	5
Copper	6010	25	5
Lead	6010	75	5
Mercury	7470	<0.05	0.05
Selenium	6010	<5	5
Silver	6010	9	1
Zinc	6010	120	5

Results are reported on a dry weight basis, corrected for percent moisture.

Analytical Results

for

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Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161079
Sample Identification: CT-3, East Hillside
Moisture (%): 8

Date prepared: 08-17-93
Date analyzed: 08-20-93
Date mercury prepared: 08-10-93
Date mercury analyzed: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	<5	5
Barium	6010	73	5
Cadmium	6010	<3	3
Chromium	6010	470	5
Copper	6010	25	5
Lead	6010	17	5
Mercury	7470	<0.05	0.05
Selenium	6010	<5	5
Silver	6010	<1	1
Zinc	6010	92	5

Results are reported on a dry weight basis, corrected for percent moisture.

Analytical Results

for

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Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161080
Sample Identification: CT-4, Second Container
Moisture (%): 27

Date prepared: 08-17-93
Date analyzed: 08-20-93
Date mercury prepared: 08-10-93
Date mercury analyzed: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	<7	5
Barium	6010	3,800	5
Cadmium	6010	7	3
Chromium	6010	12,000	5
Copper	6010	9,900	5
Lead	6010	320	5
Mercury	7470	<0.11	0.05
Selenium	6010	<7	5
Silver	6010	<1	1
Zinc	6010	33,000	5

Results are reported on a dry weight basis, corrected for percent moisture.

Analytical Results

for

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Clayton Project No. 90406-17

Sample Matrix: Soil
Lab Number: 161081
Sample Identification: CT-5, First Container
Moisture (%): 13

Date prepared: 08-17-93
Date analyzed: 08-20-93
Date mercury prepared: 08-10-93
Date mercury analyzed: 08-10-93

Analyte	Analytical Method (EPA)	Analytical Results (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	<6	5
Barium	6010	180	5
Cadmium	6010	5	3
Chromium	6010	41,000	5
Copper	6010	41	5
Lead	6010	140	5
Mercury	7470	<0.06	0.05
Selenium	6010	<6	5
Silver	6010	<1	1
Zinc	6010	55,000	5

Results are reported on a dry weight basis, corrected for percent moisture.

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Analytical Laboratory Report
for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Table 1

Lab Number	Sample Description	Total Cyanide * (mg/kg)	Reactive Cyanide (mg/kg)
161077	CT-1, WEST LAGOON	2,800	<50
Limit of Detection:		0.01 mg/kg	50 mg/kg
Analytical Method (EPA):		9010	SW846 Chapter 7

* Analysis performed by Spotts, Stevens and McCoy, Inc. of Reading, Pennsylvania.

Table 2

Lab Number	Sample Description	Total Cyanide * (mg/L)	Reactive Cyanide (mg/kg)
161077	BLANK	<0.005	<50
Limit of Detection:		0.005 mg/L	50 mg/kg
Analytical Method (EPA):		9010	SW846 Chapter 7

* Analysis performed by Spotts, Stevens and McCoy, Inc. of Reading, Pennsylvania.

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

Analytical Laboratory Report
for

ECOLOGY & ENVIRONMENT

Clayton Project No. 90406-17

Table 3

Lab Number	Sample Description	Ignitability
161080	CT-4, SECOND CONTAINER	negative
161081	CT-5, FIRST CONTAINER	negative

Analytical Method (EPA): SW 846, 3rd Edition

Table 4

Quality Control Data

Analyte	Spike Level	Recovery (%)
Reactive Cyanide	100 mg/kg	5.7
		5.7
Total Cyanide	4.0 mg/L	97.8

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M E M O R A N D U M

DATE: September 1, 1993

TO: File, E & E, Detroit, MI

FROM: Herbert B. Langer, TAT-Chemist, E & E, Detroit, MI

THRU: Sandra L. Basham, ATATL, E & E, Detroit, MI

SUBJ: **Organic Data Quality Assurance Review, Cyb Tool Site, Canton, Wayne County, Michigan**

REF: Analytical TDD: T05-9308-802 Project TDD: T05-9302-012
Analytical PAN: EMI1332AAA Project PAN: EMI1332SAA

The data quality assurance review for the four soil samples collected from the Cyb Tool site in Canton, Michigan, has been completed. Analyses for volatile organic compounds (SW846, method 8260) were performed by Clayton Environmental Laboratories, Novi, Michigan.

The samples were numbered: CT2, CT3, CT4, and CT5

Data Qualifications

I Holding Time: Acceptable

The samples were collected August 4, 1993, and analyzed August 17, 1993, within the recommended holding times. Due to the high volatile compound concentrations in the samples they were diluted and reanalyzed August 18 and 19, 1993.

II GC/MS Tuning: Acceptable

Bromofluorobenzene was run within twelve hours of the analyses. Expanded ion abundance criteria were met for the instrument used.

III Initial and Continuing Calibration Verification: Acceptable

A five point calibration was performed July 29, 1993. All average response factors were greater than zero and percent relative standard deviations were less than 30 as required. Continuing calibration was performed each day of analysis.

All relative response factors were greater than 0.05. Percent differences between initial and continuing calibration response factors were less than twenty-five for detected compounds.

IV Method Blank: Acceptable

Method blanks were run each day of analysis. Target analytes were not detected in the blanks above the instrument detection limit.

V Optional Quality Control Analyses:

A. Matrix Spike (MS): Acceptable

A matrix spike was analyzed August 19, 1993. Percent recoveries of the spike compounds fell within the laboratory's quality control guidelines.

B. Surrogate Recovery: Acceptable

Surrogate compounds were masked by dilution of the samples.

VI Compound Identification: Acceptable

Relative retention times of identified compounds were within 0.06 units of the daily standards.

VII Compound Quantitation and Reported Detection Limits: Acceptable

Dilutions were required to bring analyte concentrations to quantifiable levels. These dilutions may have masked other analytes in the sample at lower concentrations. Detection limits have been properly adjusted.

VIII Overall Assessment of Data for Use:

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 5.0, VOAs by GC/MS Analysis.

Based upon the information provided, the data are acceptable for use.

Analytical Results
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received:	08/06/93
Lab Number:	161078 >B0441	Date Analyzed:	08/17/93
Sample Identification:	CT-2	Moisture:	9%
Analytical Method:	EPA 8260		

Volatile Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acetone	<100	100
Benzene	<10	10
Bromodichloromethane	<10	10
Bromoform	<10	10
Bromomethane	<10	10
2-Butanone	<100	100
Carbon disulfide	<100	100
Carbon tetrachloride	<10	10
Chlorobenzene	<10	10
Chloroethane	<10	10
Chloroform	<10	10
Chloromethane	<10	10
Dibromochloromethane	<10	10
1,1-Dichloroethane	<10	10
1,2-Dichloroethane	<10	10
1,1-Dichloroethene	<10	10
cis-1,2-Dichloroethene	<10	10
trans-1,2-Dichloroethene	<10	10
1,2-Dichloropropane	<10	10
cis-1,3-Dichloropropene	<10	10
trans-1,3-Dichloropropene	<10	10
Ethylbenzene	<10	10
2-Hexanone	<100	100
Methylene chloride	10	10
4-Methyl-2-pentanone	<100	100
Styrene	<10	10
1,1,2,2-Tetrachloroethane	<10	10
Tetrachloroethene	<10	10
Toluene	10	10
1,1,1-Trichloroethane	<10	10
1,1,2-Trichloroethane	<10	10
Trichloroethene	<10	10
Vinyl chloride	<10	10
Xylenes (total)	<30	30

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
Ecology & Environment

Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received:	08/06/93
Lab Number:	161079 >B0442	Date Analyzed:	08/17/93
Sample Identification:	CT-3	Moisture:	8%
Analytical Method:	EPA 8260		

Volatile Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acetone	<100	100
Benzene	<10	10
Bromodichloromethane	<10	10
Bromoform	<10	10
Bromomethane	<10	10
2-Butanone	<100	100
Carbon disulfide	<100	100
Carbon tetrachloride	<10	10
Chlorobenzene	<10	10
Chloroethane	<10	10
Chloroform	<10	10
Chloromethane	<10	10
Dibromochloromethane	<10	10
1,1-Dichloroethane	<10	10
1,2-Dichloroethane	<10	10
1,1-Dichloroethene	<10	10
cis-1,2-Dichloroethene	<10	10
trans-1,2-Dichloroethene	<10	10
1,2-Dichloropropane	<10	10
cis-1,3-Dichloropropene	<10	10
trans-1,3-Dichloropropene	<10	10
Ethylbenzene	<10	10
2-Hexanone	<100	100
Methylene chloride	<10	10
4-Methyl-2-pentanone	<100	100
Styrene	<10	10
1,1,2,2-Tetrachloroethane	<10	10
Tetrachloroethene	<10	10
Toluene	<10	10
1,1,1-Trichloroethane	<10	10
1,1,2-Trichloroethane	<10	10
Trichloroethene	<10	10
Vinyl chloride	<10	10
Xylenes (total)	<30	30

* Results are reported on a dry-weight basis, corrected for percent moisture.

Analytical Results
for
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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received:	08/06/93
Lab Number:	161080 >E7626	Date Analyzed:	08/18/93
Sample Identification:	CT-4	Moisture:	27%
Analytical Method:	EPA 8260		

Volatile Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acetone	<3000000	3000000
Benzene	<300000	300000
Bromodichloromethane	<300000	300000
Bromoform	<300000	300000
Bromomethane	<300000	300000
2-Butanone	<3000000	3000000
Carbon disulfide	<3000000	3000000
Carbon tetrachloride	<300000	300000
Chlorobenzene	<300000	300000
Chloroethane	<300000	300000
Chloroform	<300000	300000
Chloromethane	<300000	300000
Dibromochloromethane	<300000	300000
1,1-Dichloroethane	<300000	300000
1,2-Dichloroethane	<300000	300000
1,1-Dichloroethene	<300000	300000
cis-1,2-Dichloroethene	<300000	300000
trans-1,2-Dichloroethene	<300000	300000
1,2-Dichloropropane	<300000	300000
cis-1,3-Dichloropropene	<300000	300000
trans-1,3-Dichloropropene	<300000	300000
Ethylbenzene	3300000	300000
2-Hexanone	<3000000	3000000
Methylene chloride	<300000	300000
4-Methyl-2-pentanone	<3000000	3000000
Styrene	<300000	300000
1,1,2,2-Tetrachloroethane	<300000	300000
Tetrachloroethene	<300000	300000
Toluene	<300000	300000
1,1,1-Trichloroethane	<300000	300000
1,1,2-Trichloroethane	<300000	300000
Trichloroethene	<300000	300000
Vinyl chloride	<300000	300000
Total Xylenes	19000000	1000000

* Results are reported on a dry-weight basis, corrected for percent moisture.

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Clayton Project No. 90406-17

Sample Matrix/Media:	Soil	Date Received:	08/06/93
Lab Number:	161081 >E7638	Date Analyzed:	08/19/93
Sample Identification:	CT-5	Moisture:	13%
Analytical Method:	EPA 8260		

Volatile Compounds	Concentration (ug/kg)*	Limit of Detection (ug/kg)*
Acetone	<3000000	3000000
Benzene	<300000	300000
Bromodichloromethane	<300000	300000
Bromoform	<300000	300000
Bromomethane	<300000	300000
2-Butanone	<3000000	3000000
Carbon disulfide	<3000000	3000000
Carbon tetrachloride	<300000	300000
Chlorobenzene	<300000	300000
Chloroethane	<300000	300000
Chloroform	<300000	300000
Chloromethane	<300000	300000
Dibromochloromethane	<300000	300000
1,1-Dichloroethane	<300000	300000
1,2-Dichloroethane	<300000	300000
1,1-Dichloroethene	<300000	300000
cis-1,2-Dichloroethene	<300000	300000
trans-1,2-Dichloroethene	<300000	300000
1,2-Dichloropropane	<300000	300000
cis-1,3-Dichloropropene	<300000	300000
trans-1,3-Dichloropropene	<300000	300000
Ethylbenzene	800000	300000
2-Hexanone	<3000000	3000000
Methylene chloride	<300000	300000
4-Methyl-2-pentanone	<3000000	3000000
Styrene	<300000	300000
1,1,2,2-Tetrachloroethane	<300000	300000
Tetrachloroethene	<300000	300000
Toluene	<300000	300000
1,1,1-Trichloroethane	<300000	300000
1,1,2-Trichloroethane	<300000	300000
Trichloroethene	<300000	300000
Vinyl chloride	<300000	300000
Total Xylenes	6400000	900000

* Results are reported on a dry-weight basis, corrected for percent moisture.

B

Site: Cyb Tool
Photo No: 01
Direction: Northwest
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: TAT Durno uses bucket auger to attempt boring into lagoon.

Site: Cyb Tool
Photo No: 02
Direction: South
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: Sub-contractor and TAT prepare to perform test excavations.

Site: Cyb Tool
Photo No: 03
Direction:Southeast
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: Crew prepares to perform first test excavation into lagoon.

Site: Cyb Tool
Photo No: 04
Direction: West
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Lagoon test excavation begins.

Site: Cyb Tool
Photo No: 05
Direction: Down
Camera: Fuji 35mm
Photographer: Mike Dieckhaus

Date: 8/3/93
Subject: Backhoe breaks into stained soil in lagoon.

Site: Cyb Tool
Photo No: 06
Direction: North
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: Green stained soil on backhoe bucket.

Site: Cyb Tool
Photo No: 07
Direction: West
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Green stained soil in excavated soil.

Site: Cyb Tool
Photo No: 08
Direction: North
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: Electroplated Steel parts pulled from excavation with the stained soil.

Site: Cyb Tool
Photo No: 09
Direction: Northwest
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Crew prepares to perform second excavation into suspected drum burial area.

Site: Cyb Tool
Photo No: 10
Direction: Down
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Concrete, clay, and sand fill material found in excavation two.

Site: Cyb Tool
Photo No: 11
Direction: North
Camera: Fuji 35mm
Photographer: Herbert Langer

Date: 8/3/93
Subject: Excavator begins excavation three at Rouge River elevation.

Site: Cyb Tool
Photo No: 12
Direction: Down
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Groundwater is encountered in excavation three.

Site: Cyb Tool
Photo No: 13
Direction: Down
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/3/93
Subject: Fill soil found in sixth excavation trench.

Site: Cyb Tool
Photo No: 14
Direction: South
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/4/93
Subject: Trench seven completed, typical sand, clay, and concrete fill material is exposed.

Site: Cyb Tool
Photo No: 15
Direction: down
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/4/93
Subject: Container from excavation trench eight. Sample CT4 was collected from this container.

Site: Cyb Tool
Photo No: 16
Direction: Down
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/4/93
Subject: Second container from trench eight. Sample CT5 was collected from this container.

Site: Cyb Tool
Photo No: 17
Direction: South
Camera: Fuji 35mm
Photographer: Mark Durno

Date: 8/4/93
Subject: Trench eight excavation is complete.

Site: Cyb Tool
Photo No: 18
Direction: North
Camera: Fuji 35mm

Date: 8/4/93
Subject: Fence repair is complete.